



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,024	07/17/2003	Andreas Schroter	56/408	1679
757	7590	05/01/2006	EXAMINER	
BRINKS HOFER GILSON & LIONE P.O. BOX 10395 CHICAGO, IL 60610			SCHINDLER, DAVID M	
			ART UNIT	PAPER NUMBER
			2862	

DATE MAILED: 05/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/622,024

Applicant(s)

SCHROTER ET AL.

Examiner

David Schindler

Art Unit

2862

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3,5-31 and 33-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,3,5-31 and 33-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to the Request for Continued Examination filed 3/27/2006.

Response to Arguments

2. Applicant's arguments filed 2/3/2006 have been fully considered but they are not persuasive.
3. With regard to section D. 1. on page 3 of the Remarks as well as on lines 1-6 of page 4 of the Remarks, the Examiner respectfully disagrees. Applicant argues that Spies shows in Fig. 5 at most one track of magnetic elements that is arranged laterally next to each of the base bodies 60,70. Applicant argues that while there are magnetic elements arranged interiorly of each base body 60,70, those magnetic elements are arranged on the interior surface of the base body. (see lines 8-12 of the top paragraph of page 3 of the Remarks). To this argument, the Examiner notes that the interior magnetic elements appear to be located on recessed tracks. See base body 60 in Figure 5 for example. Note the recessed tracks, the magnetic elements, and the concentric rings between the recessed tracks. These recesses cause the magnetic elements to be arranged laterally next to base bodies 60,70.

With regard to section D. 2. on page 4 of the Remarks and line 1 of page 5 of the Remarks, the Examiner respectfully disagrees. Please see the above paragraph 3 of this Office Action.

With regard to section D. 3. on page 5 of the Remarks, the Examiner respectfully disagrees. Please see the above paragraph 3 of this Office Action.

Art Unit: 2862

4. With regard to section D. 4. on page 5 of the Remarks as well as lines 1-9 of page 6 of the Remarks, the Examiner respectfully disagrees. Again, due to the recesses show in Figure 5, other magnetic elements besides the outer magnetic elements appear to be laterally arranged with their respective supports. Please see the above paragraph 3 of this Office Action.

With regard to section D. 5. on page 6 of the Remarks, the Examiner respectfully disagrees. Please see the above paragraphs 3 and 4 of this Office Action.

With regard to section D. 6. of page 6 of the Remarks, the Examiner respectfully disagrees. Please see the above paragraphs 3 and 4 of this Office Action.

With regard to Applicant's comment regarding the Kitaori reference at the bottom of page 8 of the Remarks, Applicant is correct in assuming that Kitaori, and not Noriyuki, is the correct reference .

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 5, 11, 14, and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to Claims 5, 11, 14, and 34,

The phrase "wherein the first set of magnetic elements are arranged on a first set

Art Unit: 2862

of tracks” on line 16 of Claim 1 is unclear. The term “on” in the above phrase is not clear as it is not understood how the magnetic elements are arranged on a first set of tracks.

A similar issue exists with claims 11, 14, and 34.

As to Claim 34,

The difference between the tracks mentioned in this claim and the second and fourth rings of claim 32 are unclear.

Claim Objections

7. Claims 5, 6, 11, 14, 25, and 33 are objected to because of the following informalities:

As to Claims 5, 11, 14,

The phrase “such that in said measuring direction alternating ones of the first and second sets of magnetic elements are arranged” on lines 12-14 is awkward.

A similar issue exists with claims 11 and 14.

As to Claims 6 and 33,

The phrase “said first and second sets of magnetic elements are magnetized along an axis of symmetry of said scale” on lines 1-2 is unclear. It is noted to applicant that there appears to be only one axis of symmetry that the first and second sets of magnetic elements are magnetized along. This axis is an axis that goes from the top of the scale to the bottom of the scale and goes through the center of the scale shown in

Art Unit: 2862

Figure 1. For the purpose of examination, the Examiner is assuming that this is the axis of symmetry that applicant refers to in claims 6 and 33.

As to Claim 25,

This claim appears to fail to further limit the invention. Note Claim 24 from which this claim depends.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 2, 3, 5-7, 10-31, and 33-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Spies (5,734,266).

As to Claim 5,

Spies discloses a first base body including a first non-magnetizable support ((Figure 5) and (Column 3, Lines 46-49) and (Column 2, Lines 40-44)), and a first set of magnetic elements (the magnets of the base body (70)) that are arranged laterally next to the first non-magnetizable support ((Figure 5) and (Column 3, Lines 17-53 / especially note lines 50-53)), are magnetized in a single identical direction and are arranged in a measuring direction (Figure 5), a second base body including a second non-magnetizable support (Figure 5), and a second set of magnetic elements (the

Art Unit: 2862

magnets of the base body (60)) that are arranged laterally next to the second non-magnetizable support (Figure 5), are magnetized in the single identical direction and are arranged in the measuring direction (Figure 5), and wherein the first base body and the second base body are put together such that in the measuring direction alternating ones of the first and second sets of magnetic elements are arranged and the first and second sets of magnetic elements have different magnetic orientations with respect to each other, wherein the first set of magnetic elements are arranged on a first set of tracks, wherein the first set of tracks, view vertically with respect to the measuring direction, are arranged spaced apart from each other by a space, and wherein the first non-magnetizable support and the second non-magnetizable support are arranged in at least the space, and wherein the first set of tracks are concentric with one another and the first and second non-magnetizable supports are arranged in the form of concentric rings between two of the first set of tracks ((Figure 5) and (Column 2, Lines 40-44) and (Column 1, Lines 60-67) and (Column 2, Lines 1-3) and (Column 3, Lines 46-49) and (Column 5, Lines 5-13)).

As to Claim 2,

Spies discloses the first base body (70) comprises a first set of spaces defined between the first set of magnetic elements (the magnets of the base body (70)) and the second set of magnetic elements (the magnets of the base body (60)) are inserted into each one of the first set of spaces (Figure 5) and (Column 5, Lines 5-13)).

As to Claim 3,

Spies discloses the first and second base bodies each have an identical geometry and magnetization (Figure 5).

As to Claim 6,

Spies discloses the first and second sets of magnetic elements are magnetized along an axis of symmetry of the scale (Figure 5).

As to Claim 7,

Spies discloses each of the first set of magnetic elements comprises a plastic-bonded hard magnetic material (Column 6, Lines 65-67).

As to Claim 10,

Spies discloses the first non-magnetizable support is made of a castable (injection molding), non-magnetizable material (plastic), and the first set of magnetic elements comprise a castable magnetic material (Column 3, Lines 17-53).

As to Claim 11,

Spies discloses providing a first base body including a first non-magnetizable support ((Figure 5) and (Column 3, Lines 46-49) and (Column 2, Lines 40-44)), and a first set of magnetic elements (the magnets of the base body (70)) that are arranged laterally next to the first non-magnetizable support ((Figure 5) and (Column 3, Lines 17-53 / especially note lines 50-53)), are magnetized in a single identical direction and are arranged in a measuring direction (Figure 5), providing a second base body including a second non-magnetizable support (Figure 5), and a second set of magnetic elements (the magnets of the base body (60)) that are arranged laterally next to the second non-magnetizable support (Figure 5), are magnetized in the single identical direction and are

Art Unit: 2862

arranged in the measuring direction (Figure 5), and combining the first base body with the second base body by sticking them together such that in the measuring direction alternating ones of the first and second sets of magnetic elements are arranged and the first and second sets of magnetic elements have different magnetic orientations with respect to each other, wherein the first set of magnetic elements are arranged on a first set of tracks, wherein the first set of tracks, view vertically with respect to the measuring direction, are arranged spaced apart from each other by a space, and wherein the first non-magnetizable support and the second non-magnetizable support are arranged in at least the space, and wherein the first set of tracks are concentric with one another and the first and second non-magnetizable supports are arranged in the form of concentric rings between two of the first set of tracks ((Figure 5) and (Column 2, Lines 40-44) and (Column 1, Lines 60-67) and (Column 2, Lines 1-3) and (Column 3, Lines 46-49) and (Column 5, Lines 5-13)).

As to Claim 12,

Spies discloses the first base body is produced by a dual injection-molding process by injecting a first material constituting the first support onto a second material that constitutes the first set of magnetic elements ((Column 3, Lines 17-53) and in particular (Column 3, Lines 47-53)).

As to Claim 13,

Spies discloses the second base body is produced by a dual injection-molding process by injecting a third material constituting the second support onto a fourth

Art Unit: 2862

material that constitutes the second set of magnetic elements ((Column 3, Lines 17-53) and in particular (Column 3, Lines 47-53)).

It is noted that the cited columns describe the dual injection-molding process for a single base body, but as Figure 5 requires two base bodies, this process would be used for the both the first and second base bodies. This reasoning applies to all claim rejections.

As to Claim 14,

Spies discloses a scale (index disk / Column 5, Line 5) including a first base body (Figure 5) including a first non-magnetizable support ((Figure 5) and (Column 3, Lines 46-49) and (Column 2, Lines 40-44)), and a first set of magnetic elements (the magnets of the base body (70)) that are arranged laterally next to the first non-magnetizable support ((Figure 5) and (Column 3, Lines 17-53 / especially note lines 50-53)), are magnetized in a single identical direction and are arranged in a measuring direction (Figure 5), and a second base body including a second non-magnetizable support (Figure 5), and a second set of magnetic elements (the magnets of the base body (60)) that are arranged laterally next to the second non-magnetizable support (Figure 5), are magnetized in the single identical direction and are arranged in the measuring direction (Figure 5), and wherein the first base body and the second base body are put together such that in the measuring direction alternating ones of the first and second sets of magnetic elements are arranged and the first and second sets of magnetic elements have different magnetic orientations with respect to each other, wherein the first set of magnetic elements are arranged on a first set of tracks, wherein the first set of tracks,

Art Unit: 2862

view vertically with respect to the measuring direction, are arranged spaced apart from each other by a space, and wherein the first non-magnetizable support and the second non-magnetizable support are arranged in at least the space, and wherein the first set of tracks are concentric with one another and the first and second non-magnetizable supports are arranged in the form of concentric rings between two of the first set of tracks ((Figure 5) and (Column 2, Lines 40-44) and (Column 1, Lines 60-67) and (Column 2, Lines 1-3) and (Column 3, Lines 46-49) and (Column 5, Lines 5-13)), and a scanning element (200), which is sensitive to a magnetic field, for scanning the first and second sets of magnetic elements ((Column 4, Lines 1-7) and (Column 5, Lines 14-15) and (Figure 6)).

As to Claim 15,

Spies discloses a second scale, a reduction gear that drives both the scale (index disk) and the second scale (index disk) in a manner in which they are geared down in relation to each other, a driveshaft coupled to the reduction gear, wherein the position measuring system is a multi-turn angle encoder for measuring an absolute position of the driveshaft over several revolutions (Column 5, Lines 22-30).

As to Claim 16,

Spies discloses the first set of magnetic elements are attached to the first non-magnetizable support ((Figure 5) and (Column 3, Lines 17-53 / note lines 46-53)).

As to Claim 17,

Spies discloses the first set of magnetic elements are injection molded to the first non-magnetizable support ((Figure 5) and (Column 3, Lines 17-53 / note lines 46-53)).

Art Unit: 2862

As to Claims 18 and 19,

Spies discloses the second set of magnetic elements are attached to the second non-magnetizable support (((Figure 5) and (Column 3, Lines 17-53 / note lines 46-53))).

Note that the cited columns and lines discuss a single base body, but as the device of Figure 5 discloses two base bodies, the process would be used for both base bodies.

As to Claim 20,

Spies discloses the second set of magnetic elements are injection molded on the second non-magnetizable support ((Figure 5) and (Column 3, Lines 17-53 / note lines 46-53))).

Note that the cited columns and lines discuss a single base body, but as the device of Figure 5 discloses two base bodies, the process would be used for both base bodies.

As to Claim 21,

Spies discloses attaching the first set of magnetic elements to the first non-magnetizable support (((Figure 5) and (Column 3, Lines 17-53 / note lines 46-53))).

As to Claim 22,

Spies discloses the attaching includes injection molding the first set of magnetic elements to the first non-magnetizable support (((Figure 5) and (Column 3, Lines 17-53 / note lines 46-53))).

As to Claim 23,

Spies discloses attaching the second set of magnetic elements to the second non-magnetizable support (((Figure 5) and (Column 3, Lines 17-53 / note lines 46-53))).

Note that the cited columns and lines discuss a single base body, but as the device of Figure 5 discloses two base bodies, the process would be used for both base bodies.

As to Claim 24,

Spies discloses the attaching includes injection molding the second set of magnetic elements to the second non-magnetizable support (((Figure 5) and (Column 3, Lines 17-53 / note lines 46-53))).

Note that the cited columns and lines discuss a single base body, but as the device of Figure 5 discloses two base bodies, the process would be used for both base bodies.

As to Claim 25,

Spies discloses the second set of magnetic elements are injection molded on the second non-magnetizable support (((Figure 5) and (Column 3, Lines 17-53 / note lines 46-53))).

Note that the cited columns and lines discuss a single base body, but as the device of Figure 5 discloses two base bodies, the process would be used for both base bodies.

As to Claim 26,

Spies discloses the first set of magnetic elements are attached to the first non-magnetizable support (((Figure 5) and (Column 3, Lines 17-53 / note lines 46-53))).

As to Claim 27,

Spies discloses the first set of magnetic elements are injection molded to the first non-magnetizable support (((Figure 5) and (Column 3, Lines 17-53 / note lines 46-53))).

As to Claims 28 and 29,

Spies discloses the second set of magnetic elements are attached to the second non-magnetizable support (((Figure 5) and (Column 3, Lines 17-53 / note lines 46-53))).

Note that the cited columns and lines discuss a single base body, but as the device of Figure 5 discloses two base bodies, the process would be used for both base bodies.

As to Claim 30,

Spies discloses the second set of magnetic elements are injection molded on the second non-magnetizable support (((Figure 5) and (Column 3, Lines 17-53 / note lines 46-53))).

Note that the cited columns and lines discuss a single base body, but as the device of Figure 5 discloses two base bodies, the process would be used for both base bodies.

As to Claim 31,

Spies discloses a first base body including a first non-magnetizable support in the form of a first ring ((Figure 5) and (Column 3, Lines 46-49) and (Column 2, Lines 40-44)), and a first set of magnetic elements that are arranged laterally next to the first non-magnetizable support (Figure 5), are magnetized in a single identical direction and are arranged in a measuring direction so as to defined a second ring that is concentric with

Art Unit: 2862

the first ring (Figure 5), a second base body including a second non-magnetizable support in the form of a third ring ((Figure 5) and (Column 3, Lines 46-49) and (Column 2, Lines 40-44)), and a second set of magnetic elements that are arranged laterally next to the second non-magnetizable support, are magnetized in the single identical direction and are arranged in the measuring direction so as to define a fourth ring that is concentric with the first, second, and third rings and offset with respect to the second ring (Figure 5), and wherein the first and second sets of magnetic elements have different magnetic orientations with respect to each other ((Figure 5) and (Column 2, Lines 40-44) and (Column 1, Lines 60-67) and (Column 2, Lines 1-3) and (Column 3, Lines 46-49) and (Column 5, Lines 5-13)).

As to Claim 33,

Spies discloses the first and second sets of magnetic elements are magnetized along an axis of symmetry of the scale (Figure 5).

As to Claim 34,

Spies discloses the first set of magnetic elements are arranged on a first set of tracks (Figure 5), wherein the first set of tracks, viewed vertically, with respect to the measuring direction, are arranged spaced apart from each other by a space, and wherein the first non-magnetizable support and the second non-magnetizable support are arranged in at least the space (Figure 5).

As to Claim 35,

Spies discloses providing a first base body including a first non-magnetizable support in the form of a first ring ((Figure 5) and (Column 3, Lines 46-49) and (Column

Art Unit: 2862

2, Lines 40-44)), and a first set of magnetic elements that are arranged laterally next to the first non-magnetizable support (Figure 5), are magnetized in a single identical direction and are arranged in a measuring direction so as to define a second ring that is concentric with the first ring (Figure 5), providing a second base body including a second non-magnetizable support in the first of a third ring ((Figure 5) and (Column 3, Lines 46-49) and (Column 2, Lines 40-44)), and a second set of magnetic elements that are arranged laterally next to the second non-magnetizable support (Figure 5), are magnetized in the single identical direction and are arranged in the measuring direction so as to define a fourth ring that is concentric with the first, second, and third rings and offset with respect to the second ring (Figure 5), and combining the first base body with the second base body by sticking them together, wherein the first and second sets of magnetic elements have different magnetic orientations with respect to each other ((Figure 5) and (Column 2, Lines 40-44) and (Column 1, Lines 60-67) and (Column 2, Lines 1-3) and (Column 3, Lines 46-49) and (Column 5, Lines 5-13)).

As to Claim 36,

Spies discloses a scale (index disk / Column 5, Line 5) including a first base body including a first non-magnetizable support in the form of a first ring ((Figure 5) and (Column 3, Lines 46-49) and (Column 2, Lines 40-44)), and a first set of magnetic elements that are arranged laterally next to the first non-magnetizable support, are magnetized in a single identical direction and are arranged in a measuring direction so as to define a second ring that is concentric with the first ring (Figure 5), a second base body including a second non-magnetizable support in the form of a third ring (Figure 5),

Art Unit: 2862

and a second set of magnetic elements that are arranged laterally next to the second non-magnetizable support, are magnetized in the single identical direction and are arranged in the measuring direction so as to define a fourth ring that is concentric with the first, second, and third rings and offset with respect to the second ring (Figure 5), and wherein the first base body and the second base body are put together and the first and second sets of magnetic elements have different magnetic orientations with respect to each other (Figure 5), and a scanning element, which is sensitive to a magnetic field, for scanning the first and second sets of magnetic elements ((Column 4, Lines 1-11) and (Figure 5) and (Column 2, Lines 40-44) and (Column 1, Lines 60-67) and (Column 2, Lines 1-3) and (Column 3, Lines 46-49) and (Column 5, Lines 5-13)).

As to Claim 37,

Spies discloses a second scale, a reduction gear that drives both the scale (index disk) and the second scale (index disk) in a manner in which they are geared down in relation to each other, a driveshaft coupled to the reduction gear, wherein the position measuring system is a multi-turn angle encoder for measuring an absolute position of the driveshaft over several revolutions (Column 5, Lines 22-30).

As to Claim 38,

Spies discloses the first set of magnetic elements are attached to the first non-magnetizable support ((Figure 5) and (Column 3, Lines 17-53 / note lines 46-53)).

As to Claim 39,

Spies discloses the first set of magnetic elements are injection molded to the first non-magnetizable support ((Figure 5) and (Column 3, Lines 17-53 / note lines 46-53)).

As to Claim 40,

Spies discloses the second set of magnetic elements are attached to the second non-magnetizable support ((Figure 5) and (Column 3, Lines 17-53 / note lines 46-53)).

As to Claim 41,

Spies discloses the second set of magnetic elements are attached to the second non-magnetizable support ((Figure 5) and (Column 3, Lines 17-53 / note lines 46-53)).

As to Claim 42,

Spies discloses the second set of magnetic elements are injection molded on the second non-magnetizable support ((Figure 5) and (Column 3, Lines 17-53 / note lines 46-53)).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spies (5,734,266) in view of Schwabe (6,717,401).

Spies discloses as explained above.

Spies does not disclose the hard magnetic material is defined by the group consisting of neodymium-iron-boron, samarium-cobalt or a ceramic magnetic material.

Schwabe discloses the hard magnetic material is defined by the group consisting of neodymium-iron-boron, samarium-cobalt or a ceramic magnetic material (Column 5, Lines 48-52).

It would have been obvious at the time of the invention to modify Spies to include the hard magnetic material is defined by the group consisting of neodymium-iron-boron, samarium-cobalt or a ceramic magnetic material as taught by Schwabe in order to use a permanent magnetic alloy (Column 5, Line 51).

12. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spies (5,734,266) in view of Kitaori (JP06103552).

Spies discloses as explained above.

Spies does not disclose the first non-magnetizable support is made of polyamide.

Kitaori discloses the first non-magnetizable support is made of polyamide (Abstract, Lines 4-6).

It would have been obvious at the time of the invention to modify Spies to include the first non-magnetizable support is made of polyamide as taught by Kitaori in order to provide strong support.

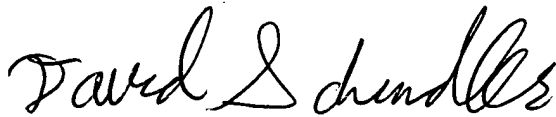
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Schindler whose telephone number is (571) 272-2112. The examiner can normally be reached on M-F (8:00 - 5:00).

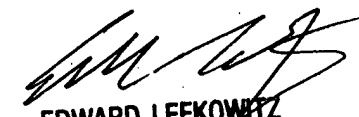
Art Unit: 2862

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


David Schindler
Examiner
Art Unit 2862

DS


EDWARD LEFKOWITZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800